

# Virginia Wildlife

October, 1977

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RIPPER



# Virginia Wildlife

October, Volume XXXVIII/No. 10

Dedicated to the Conservation of Virginia's  
Wildlife and Related Natural Resources

COMMONWEALTH OF VIRGINIA  
MILLS E. GODWIN, JR., GOVERNOR

Commission of Game and Inland Fisheries

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COVER: Opossum, by Charles Ripper, Huntington,  
West Virginia

# Editorial

## NO BETTER THAN THE WORST OF US

Another hunting season has arrived and again we can expect a flood of reports of hunters doing this, that and the other unethical or illegal acts. 125 wardens riding herd on half-a-million hunters tips the scales strongly in the unscrupulous hunter's favor. However, many people will judge us all by his actions.

We, here at the Game Commission, have wrestled long and hard with the problem of getting our wardens where the action is and when it is happening. Out in hunting country, distances are great enough that the culprit can make a clean getaway while the warden drives 20 miles to investigate. Even though the warden enjoys radio communication, he is seldom around the corner when needed. How to put the public in touch has been hotly debated over the years.

Some states have gone to toll free 800 numbers so wardens are theoretically as close as the telephone. This requires 24 hour answering service with access to the statewide radio system. Also, the warden might be on vacation, eating supper, in bed or otherwise unready for instant response.

As CB radios proliferate, a designated channel monitored by game wardens has been suggested. This would

provide instant contact while retaining anonymity. It would be good on opening days and other such times when hunters and wardens are out in full force. During quieter times, its short range would be limiting.

Our general reluctance to get involved is the most serious obstacle to be overcome. No one wants to be publicly recognized as the dirty rat that turned in a fellow hunter. In many cases successful prosecution would require this person to go to court and testify to the foul deed he witnessed the defendant commit. Most chicken out at this point, saying it isn't worth it. The warden usually doesn't have enough evidence to make the case without the witness's testimony so, in the end another violator goes free.

Since we are all being judged by the actions of the worst of our ranks, it behooves each of us to go out of our way to turn in or put down hoodlum hunters when we find them. If their activities are illegal, a game warden should be contacted. A pocket-size roster of game wardens and their phone numbers is available from the Game Commission. The county sheriff's department will usually forward calls via radio. If the activity observed is merely unethical, perhaps criticism from fellow hunters would stop it. It's worth a try. — H.L.G.

## Letters

### NEGLECTED CHINQUAPIN?

I would hope that the effort to resurrect the chestnut discussed in recent issues will not overlook its cousin, the noble chinquapin. As a boy, I took great pleasure in the fall harvest of chinquapin nuts. The shrub at that time grew in profusion along rural roads and along fence rows. However, the same blight which killed the chestnuts also attacked the chinquapin.

Some are making a comeback. For the first time in years I have seen chinquapins in a healthy condition. Why not include this beautiful tree in the resurrection effort?

Jack Hughes  
Kents Store

### MYSTERIOUS SIGHTING

I commend your staff for printing the very beautiful picture of the American Avocets in your July issue. You may be interested in an unusual sighting I had of the Avocet.

A friend and I visited Bombay Hook, Delaware. About 150 yards from shore, we looked up to see about 35 Avocets in a straight line. Each bird was facing the same way and each had his head under his wing.

It was a fascinating sight that I will never forget.

Robert E. Brown  
Sellersville, Pennsylvania



### READERS TO THE RESCUE!

We had two letters from readers regarding Jim Bolton's request for information on the mink fly. Bolton requested in our August letters column the location of an article that he remembered on the subject. Both C.W. Sinclair of Fairfax and Mr. W.A. Dennison, Jr. of Bristol supplied the answer. The article was printed in a 1975 pre-season issue of Fly Fisherman magazine. Mr. Sinclair also sent us a sample of a mink fly.

Thanks to both Mr. Sinclair and Mr. Dennison for coming to the rescue!

Edt. Asst.

### COON TRAPPERS THE VILLAIN?

After reading the new game laws for the 1977-78 hunting season, I find it hard to believe the new laws the Game Commission has passed on coon hunting. In my opinion, cutting down the dog hunters season is not the answer. On an average day a trapper will take more coons in a trapping season than five men with dogs would take in a similar season. So why not put the blame where it should be, on the trapper and not on the sport.

James M. DeHart  
Richmond, Virginia

*A coon taken is a dead coon, whether taken by a coon hunter or a trapper. Likewise, at current market prices, either is worth \$25 or so unless it is taken by a coon hunter before the fur is prime, then is worth nothing. It seemed to the Commission a waste to kill \$25 coons in September and October when the pelts are practically worthless. Likewise, in late winter the pelt again becomes un-prime. The closing season was unaffected. High fur prices make the coon an attractive quarry, so attractive that a long taking season could seriously reduce numbers. That is the logic behind the decision.*

Editor





# HAS VIRGINIA'S PHEASANT POPULATION FIZZLED?

BY W. HASSEL TAYLOR AND MEL WHITE

**I**t now appears that there may never be any significant pheasant hunting in Virginia and this big game bird so important in other states, will be only a minor species in the Commonwealth.

What happened to this big and often gaudy chicken-like bird reads like a detective story, a who-done-it, however, that may leave the reader searching for the final definitive clue.

The trail from no birds through fair bird hunting to questionable populations began over a decade ago when the first pheasant was scientifically introduced into the Commonwealth. Birds, mostly ringnecks, had been set free from time to time by landowners in a haphazard fashion and most of these soon perished and were forgotten. In 1958 experimental stocking of pheasants was begun with the supervision of the Foreign Game Investigation Program. There were some big questions at the time. The most notable of these being: Could this proven game bird survive in the habitat available, and if so, could he stand hunting pressure?

In order to assure a good start on the first question, the United States Fish and Wildlife Service provided a field man with the job to find a compatible pheasant. Knowing Virginia well, the task was to find similar territory in the pheasant's natural range. Studies indicated that birds from Iran were likely to be compatible with Virginia's habitat. Working with the Iranian government, the Fish and Wildlife Service collected eggs and young birds in their native territory and shipped them to Virginia. At the Game Commission's Cumberland Game Farm these imports from Iran and elsewhere were reared and often crossed with other pheasant species in an attempt to produce a viable Virginia bird.

In the twelve years between 1958 and 1970, some 37,000 were stocked in several Virginia locations. These birds were an interesting mixture and included: Western Iranian crosses with Chinese ringneck,

Eastern Iranian crosses with Chinese ringneck, and the Japanese green pheasant. In all, eight species were tried, but only the preceeding three established populations. The Western-Iranian ringneck cross did well for a while in Charles City County. The Eastern-Iranian ringneck established itself in the Shenandoah Valley. The Japanese green seemed to do well in both Tidewater and the Shenandoah Valley, as well as on the Eastern Shore.

Unlike the farmers who just released ringnecks and hoped for the best, the biologists of the Game Commission's experimental pheasant program worked hard at maintaining a firm grasp on just what was happening to their new birds.

In the beginning, on many a not yet warm morning in spring, game biologists were up and out. Fifteen mile long routes were planned and populations were estimated by listening to the crowing cocks. Often a stop on a cold, misty morning provided little but vistas of sunrise through a thinning ground fog. Others found the hush of the new day broken by a cock pheasant proclaiming his territory. Birds seen, as they often were, on the crowing count routes were also noted.

The scientists also employed another method of population estimation. In the fall, both before and after hunting seasons, flushing counts were conducted. Counts were held in an area of about 150 acres near the original release site and the same general area was used for successive counts. A flushing count is much like going after pheasants without guns. Two to five men go afield with several bird dogs and, in effect, hunt pheasants. Instead of being downed with a shotgun, the flushed birds are counted.

Thriving populations in limited areas. That was the early result of planting pheasants in Virginia. Enough birds to begin in 1970, a limited hunting season. Biologists felt that controlled hunting would give them a better picture of the real pheasant population.



The 1970 season was a very restrictive two day, cocks only hunt with a bag limit of one bird per day. In an effort to dilute a heavy concentration of hunters, the season was started on the opening day of the 1970 big game season. After two such seasons, the length was extended to six days and was opened one week earlier to correspond with the opening of the small game season. The bag limit was still one cock per day, two per season.

During the first three years of hunting, pheasant harvests in Virginia showed an increase. The next two years, 1973 and 1974, a gradual decline was noted and in 1975 a substantial decrease was evident. Even though spring crowing counts on the pheasant's best Virginia range, Page County, showed a decline in cock pheasants, indications were that a sufficient number were available for a good carry-over of brood stock each year.

For whatever reasons, there was a marked decline in the pheasant population, enough to cause some knowledgeable scientists to conclude that it is not worthwhile to work on pheasants in Virginia.

There are many indications that this decline is due in part to a failure of hunters to check their kills. Pheasant hunting rules have always stated that all birds were to be checked at a big game checking station -- the same method successfully used to keep tabs on deer and turkeys. A loss of hunting area by posting is thought to have some effect on the total recorded harvest.

There are also other unanswered questions, such as: Why is Northern Virginia the only area with a fair harvest when many more birds were stocked in the Piedmont and Coastal Plain areas. And another question: Why is this "good" pheasant area on the decline? The decline here is so serious that management and stocking may not continue to be profitable.

While there will obviously be pheasants in some areas of Virginia for years to come, the dream of a substantial population seems to be dwindling as fast as the bird itself.

Is habitat a limiting factor? Some scientists believe that there may be some yet unknown habitat factor that is naturally limiting the pheasant's ability to sustain a huntable population. Others consider the problem to be shaded toward the human population in the stocked areas. Perhaps the pheasant is just too big and visible a bird -- just too much of an "easy target" outside the hunting seasons. A temptation on the part of some to turn the holdover brood stock into pot meat may be one of the answers to the riddle.

There is little to compare with a frosty morning, a good bird dog and a squawking cock pheasant digging for altitude over the head of your 12-gauge. The best of scientific investigation indicates that this will not be a common event in the Old Dominion in the future. Why not? The answer seems as elusive as an old cock pheasant, running through the tall grass -- just ahead of your dog and too ornery to flush.

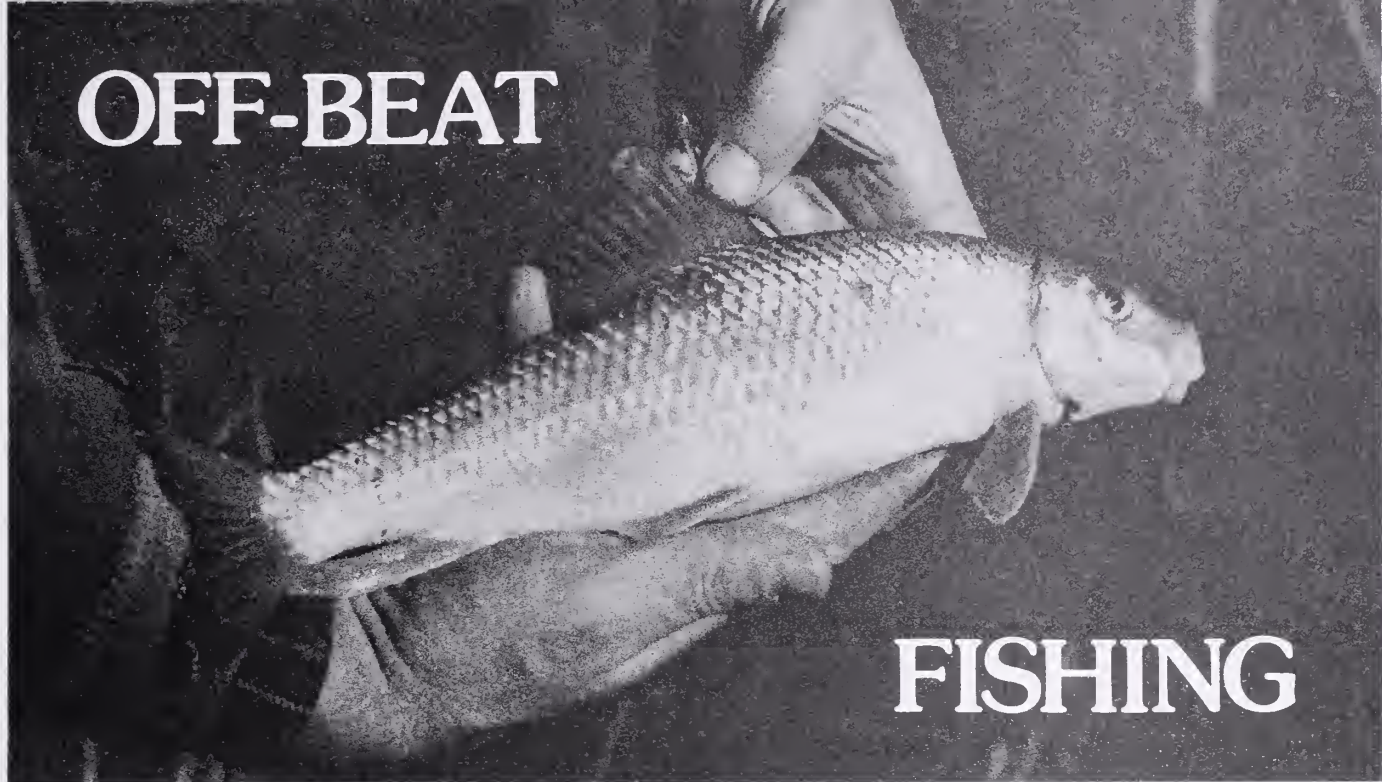
*Pheasant shooting like this can be some of the world's best hunting*

*L. L. Rue Photo*





# OFF-BEAT



## FISHING

By BOB GOOCH

I suppose I was a bit disappointed. I shouldn't have been. That flashy fish gave a good account of itself in the icy mountain waters. But I was fishing for trout, and when that strike jolted me to my elbow, I was sure I had tricked a big rainbow with my tiny spinning lure. The fish bored deep in the dark pool and my thin line forced me to give a bit. Expecting a wild leap momentarily, I prayed that my thin line would hold.

But the leap never materialized — and that was my first clue that I wasn't onto a rainbow.

A big brookie? Possibly. The fish tired slowly and grudgingly yielded to the relentless pressure of the light rod. Finally, I led it to the net and there glistening through the meshes was a hefty fallfish!

As a trout fisherman, I was disappointed. In retrospect, however, I realize a slight psychological adjustment on my part would have permitted me to find joy in that catch. No hatchery trout could have hit more savagely, nor fought more spectacularly. True, it did not leap, but neither do many of our more highly regarded game fish.

Still, I like to fish for fallfish — in the spring when they join suckers in the headwater streams, or in the summer when I slip into old trousers and tennis shoes to wade the small streams, casting light spinning lures to the usually cooperative fish.

The fallfish can boast of many of the characteristics of a game fish. It's not too hard to catch, hits well on both artificial and natural lures, gives a good account of itself on light tackle, and if you don't mind the tiny bones, the silvery fish is tasty on the table.

Found in a variety of waters, the fallfish seems to prefer the clear, cool, fast-flowing streams of the foothills. It goes by many names — chub, silver chub, white chub, whitefish and others — many strictly local. Large ones will measure 18 inches and weigh a pound and a half, but the average is 8 to 10 inches.

The fallfish is just one of the many non-game fish I turn to for occasional off-beat fishing. It is a good way to get away from the crowds, out of the mainstream where the competition can get sticky. It offers a solitary kind of fishing, the contemplative kind Izaak Walton wrote so eloquently of — fishing that too often evades the modern angler.

The common white sucker is a good example of a non-game fish that can furnish many hours of relaxing fishing and, taken from the icy waters of early spring, it is a tasty fish — much better for table purposes than fallfish.

The sucker will not hit an artificial lure, nor is its strike dramatic. In fact it is seldom more than a light tap, difficult to detect as the fish takes the bait with its puckered mouth. While its light strike will not win it many friends, the sucker does wage a fair fight on light tackle, particularly during the cold spring months, the only time I fish for it.

Sucker fishing will not appeal to all anglers. It is too slow and requires a great deal of patience as the angler may spend hours simply sitting on the bank of a stream tending his lines.

The outdoor world comes alive in the spring as the suckers make their annual spawning run. The birds are migrating and the first buds of spring are bursting forth. The true lover of nature can become so absorbed with



his surroundings that he may completely forget about his fishing — until a telltale tap on his line brings him back to the task at hand.

Garden worms are the favorite bait of the sucker angler and gathering them from the fresh, moist earth of spring can be refreshing in itself. The successful sucker angler will need a good supply.

"Most folks don't put enough worm on their hook," one old-time sucker fisherman told me. The most successful sucker fishermen are the contemplative and observing old timers who possess an uncanny knack for catching the puckermouth fish. They bait their hooks with gobs of worms and fish them on cane poles, tending as many rigs as the law allows.

Many newcomers to sucker fishing use light spinning tackle, thin monofilament and tiny trout hooks. The sucker's mouth is small and meaty. Therefore, hooking the fish is not a problem.

Suckers are found in clear lakes and also in our largest streams, but the small headwater streams are delightful waters in which to fish for them. Trout fishermen often take suckers high in the mountains, but the foothills waters are generally more productive. Suckers are bottom feeding fish and are thus fished for on the bottom.



*Bowfin or grindle*

*Illustrated by "Spike" Knuth*

While I place the sucker a cut above the carp, the carp too can be the source of some unusual fishing fun. It grows big — approaching 50 pounds in some cases — and offers truly big-game fishing. Landing a 30 to 40-pound fish is a challenge regardless of the name of the slugger on the other end of the line.

The larger, slow-moving rivers offer the best fishing, but carp are also found in many of the larger lakes. Dough balls are the favorite bait of most carp anglers, but kernels of yellow corn on tiny hooks will also work. Earth worms will take carp, as well as suckers.

Carp, like suckers, are bottom feeders. However, in clear lakes and rivers they often feed on or near the surface. When they do, the fly fisherman can experience some unusual angling in casting dry flies to them. The strike is little more than a slurp as the fish sucks in the fly.

The angler who hooks a big carp on light fly tackle will be in for the battle of his angling life. I once lost all of my terminal tackle on a big one that had invaded a trout stream I was fishing. Taken from such clear, clean water, cleaned and smoked, the carp is a tasty fish.

Another stream favorite of the off-beat angler is the horned dace. We called them stone toters in the small

Piedmont stream where I cut my angling teeth since they carried small stones in their mouths to build nests. These delightful little fish hit bait or artificials and are scrappy and tasty.

The Old Dominion's big catfish family offers many off-beat angling opportunities.

The streamlined channel cat is the star of the family, and while this sleek catfish will take artificial lures, casting artificials is not a generally effective method. If the angler insists, he should work his lure very slowly. The channel cat prefers clear, clean water and is a very good table fish. Live minnows, crayfish and worms will take channel cats, but strong smelling meats and other baits are also good. Spinning tackle is fine for channel cats. The white catfish is another popular but smaller cat, but its food value is not equal to that of the channel, nor does it possess the same angling qualities. The bullhead also furnishes good fishing, though the fish rarely attain large sizes.

The dedicated catfish angler fishes at night, usually by the light of a gasoline lantern and a warming fire built near the rim of a hot catfish hole. The fish are more active after dark.

For the angler who disdains the use of natural baits, there are two rough customers that will give him a full measure of angling thrills. Both the longnosed gar and the bowfin live in Old Dominion waters. Some anglers fish especially for these ferocious fish, but most are probably taken accidentally by bass or pickerel fishermen. They hit savagely and fight stubbornly, though the gar is hard to hook.

The bowfin or grindle is a fish out of the past, a vicious appearing creature with big teeth and is worthless on the table. Both the gar and bowfin attain sizeable weights — many going 20 to 30 pounds. The gar may go even larger with big teeth that don't hesitate to latch onto plastic worms or spinner baits. With a sizeable grindle and 20 pounds is not uncommon, you can have a real fight on your hands. Taking to the air to get away from your hook, the grindle will make short work out of your monofilament line. But, you probably didn't want him in the boat anyway since he's no treat to your nose and is generally considered worthless as table fare. Gar are also less than useless as a food fish and are more difficult to catch. The gar's long bony snout is too hard to be penetrated by most hooks and some trickery fishing is required if you intend to catch gar on a regular basis. One method involves unbraded nylon rope which is made into a makeshift lure which entangles itself in the gar's toothy mouth. Once caught, however, the problem quickly becomes what to do with your catch. Cutting the gar free once he's alongside the boat is one answer, and probably the best one since one gar in a small boat is one passenger too many.

While there are undoubtedly bigger fish in the sea, there are also some good overlooked ones in our own varied and rich fresh waters.



# THE CYCLE COMPLETED

A Photo Essay by  
Paul Bratton and Judy Price

**L**ife and death: the vivid, the obscure. These are contrasting in essence, yet complimentary. There is death because of life and life because of death. Each one is born of the other, each one is bound to the other; a perfect ever-circling cycle. Death and Life.

In its natural environment, each living thing is an asset. It holds an irreplaceable niche in the food chain. Upon death, that status is altered. But the value is not resigned. To carrion and deadwood, the usefulness goes on.

A tree lives and dies. Each year it increases in size, adding another ring to its growth, another twig to its height, another root to its support. And the core crumbles slowly within and finally the parched leaves are laid down.

The leaves are laid down two tons to an acre in the deciduous forest. And the canopy rains twigs, limbs, buds, bark and even whole trees throughout the seasons. The debris is constantly being augmented, the carpet enhanced. And still it remains only a carpet, only lush ground litter beneath the feet.

*Formerly tall and reaching for the sunlight, the tree in its new incarnation is now part of the recycling of plant life in the forest.*







The decomposers maintain the carpet. Without the fungi, the burrowing waste-consuming insects, the litter would soon top the trees.

There is a system of decay, a kind of turpid order. For some, it begins before death. Insects and parasitic fungi attack leaves while they are yet green and functioning in the tree. They invade tissues, releasing organic and mineral matter. The process of decay is begun.

When the leaves fall to become litter — the uppermost horizon of the forest floor — the fungi that invaded them as living material are soon displaced. Other fungi, the saprophytic forms, appear and thread their way through the loose carpet. An army of small soil-inhabiting animals, the meiofauna, penetrate the litter, moving ceaselessly through the warm, glowing passages, feeding, excreting waste and creating new passageways with their activity.

Of all the soil animals, one remains the most prominent: the earthworm. It is renowned and esteemed by fishermen and gardeners and soil researchers. Contributing to that celebrity was Charles Darwin, whose recorded observations and experiments gave man an extensive and scientific study of the earthworm.

Through his labor, the earthworm aerates and refines the soil. He returns the complex to the elemental. By first softening his food with a secreted enzyme and then passing it through his body, he releases nutrients and neutralizes acidity. Segment by segment the particles of organic matter are resolved. And as castings they are returned to the soil.

Through the humus and the subsoil are sculptured corridors. Moles and shrews are among the subterranean animals responsible for these excavations.





They burrow through the underground for both food and shelter. They eat other soil animals, such as insects and worms, and do what every farmer must: they plow the land.

From green leaf to topsoil, a myriad of natural elements and powers are significant. Climate and the chemical nature of the litter are the two most evident and paramount. Extremes of heat, cold, rain, or aridity can retard the process. The fragile balance of soil flora and fauna is dependent upon these factors. When that balance is disturbed, dissolution is slowed.

Man, too, is a factor to be considered in the process of decomposition. He tips the scales heavily with his preventations and his contributions. Each year enormous amounts of chemicals are spread across the land to kill unwanted insects, to check fungus growth. Often the decomposers are not the target, but they suffer the poison. They suffer the overgrazing, the weight of concrete laid across the land. The busy corridors become still catacombs and the earth is one inch closer to a revolving sepulcher.

Life was brewed from Pre-Cambrian waters, from the earth's womb. In that bleak age of innocence, of timelessness, of vast eternity, it was only aimless energy populating aimless energy populating aimless energy.

And then there was death. Cold, unpredictable, dealing out mortality, dealing destinies. It was not just the dispossessor of life, but the liberator as well. For the first time, variation was possible. Diversity was possible. The avalanche of evolution was set in motion and then even man was possible.

Decay began. The decomposers are even now silently working. They are quietly regenerating the life of the earth.



*Cycles are greatly influenced by climate. In the southern forest (far left) decay progresses much faster than in a northern lake area (left). In most all areas, insect life (below) is an important link in the chain.*







JOHN W TAYLOR



# EASTERN BLUEBIRD

By JOHN W. TAYLOR

It was Ben Franklin who thought the bald eagle a poor choice for a national bird. He advocated the wild turkey for the honor, citing the sterling qualities of the big game bird, and denouncing some of the cowardly tactics of the eagle.

A still better choice might have been the bluebird. Though less majestic than the eagle, and certainly not as powerful, the bluebird has an excellence of character that any nation, or individual, could aspire to. Moreover, it carries boldly the colors of the flag: red, white and blue.

And what blue! When the sunlight falls just right on the male bird, there is no color under heaven that can match it. Is it turquoise or azure, cerulean or lazuline? Then he moves, the light changes, and it becomes still another blue, no less scintillating, still indescribable.

The throat and breast are a soft brick red, which gives way to white on the belly and the under tail coverts. The demure female is patterned similarly, but with a dingy wash of dull orange over portions of the head and back. There are flashes of that same magic blue in her wings and tail.

Though the bluebird is neither as eloquent nor as full throated as its fellow thrushes, its subdued, mellow caroling is equally as pleasant to the ear. These notes are especially welcome when in early spring, we first hear them after the dreary silence of winter. Often delivered while the birds are in flight, the plaintive sound may be the only indication of their presence. They pass on to the north, unseen, leaving but a promise of better things to come.

The "song" of the bluebird is only slightly more sustained than its call-note. A brief, almost murmured, warble, it may be rendered phonetically as "chuey, cheueery."

The season of song is limited to the period of courtship and nesting, which begins unexpectedly early. In the mid-Atlantic states, nest building is under way by early March, and a full clutch of eggs may be ready by the end of the month. The four to six pale blue eggs hatch about two weeks after the last egg is laid.

A wide variety of nesting sites is suitable and almost any cavity will do. Hollows in fence posts are frequently used, as are natural holes in trees (both dead and alive). Old woodpecker diggings are often appropriate, as are, of course, bird boxes.

The nest itself is woven of grasses, weed stalks and other vegetative matter. Sometimes it is lined with feathers, horse hair or other soft material. Never as neat and compact as that of the robin, it varies in bulk depending on the location and the availability of construction material. Rarely is the nest situated more than 15 feet from the ground (usually from five to ten feet).

Two broods are normally raised, and there may even be three, if misfortune occurs before the young are brought off safely. The same nest may be used for the second batch of youngsters, but more often another site closeby is selected.

Despite such prolificacy, bluebird populations have suffered serious setbacks. The chief causes of mortality are unfavorable weather conditions and competition from other bird species.

The birds are particularly vulnerable to spring snow storms. Following closely behind the retreating winter as they migrate northward, they are apt to be caught by sudden weather changes or by prolonged cold. Winter snow and extended freeze-ups also take their toll of bluebirds. Many were found dead after the severe spell of cold this past winter. A half-dozen were discovered frozen in one roosting cavity in Maryland.

Worse still — for blue birds, have been the introduction to this country of English sparrows and starlings. In the latter part of the last century, the sparrow was just establishing itself here and it succeeded in displacing the bluebird from many of its haunts. The rowdy scoundrels used the nesting boxes set out for the native bird. The sparrows, being non-migratory, had occupied the boxes by the time the bluebirds returned from their winter territory.

Then, a few decades later, the starling was brought over from Europe. Stronger, and more aggressive than the sparrow, it proved an even deadlier enemy to the bluebird, competing not for nesting sites but also for the same food staples of berries and fruits.

In recent years, the bluebird has shown an encouraging increase, thanks to concerned groups and individuals who have erected and maintained nesting boxes constructed just to suit them. (An entrance hole small enough will keep the starlings out.)

For those who want to build a bluebird nesting box, the following specification are recommended: Floor of box 5 X 5", Depth of box 8", Hole above floor 6" and Diameter of hole 1½".



# 1977 HUNTING SEASON OUTLOOK

Deer hunters can expect another good season this fall according to Virginia Game Commission biologists. A harvest close to last year's record total of 63,671 is expected. Slight liberalization of doe shooting in the Central and Southwestern Piedmont may help boost the success.

Bear and squirrel hunters aren't expected to fare as well this year. A very small mast crop on both red and white oak is expected to force these animals to seek out secluded feeding spots, making them less available to hunters. The hickory crop seems poor and spotty, which will lower success during early squirrel seasons.

Quail hunters may also be disappointed since quail numbers usually decline under drought conditions. The worst of this year's drought was in the South Central Piedmont, generally recognized as the best of Virginia's quail range. West of the mountains and in the Northern Neck, bird hunting might be better since drought conditions here were not so severe.

Some good is expected to come from the dry weather, however, as bumper hatches of turkeys and grouse have been reported. Both fare better when the young don't have to fight wet conditions after hatching. Fall success will depend on survival of this large crop of young, an unknown factor at this point.

Statewide Deer, Bear, and Turkey Harvest

County or City	1974 - 1975			1975 - 1976			1976 - 1977		
	Deer	Bear	Turkey	Deer	Bear	Turkey	Deer	Bear	Turkey
Accomack	224	0	0	218	0	0	118	0	0
Albemarle	854	6	34	1,126	20	26	1,027	13	92
Alleghany	985	7	187	912	4	269	930	16	197
Amelia	1,832	0	36	1,511	0	35	1,816	6	95
Amherst	406	5	16	586	10	22	567	6	63
Appomattox	741	0	19	698	0	31	880	0	58
Augusta	1,381	23	289	1,491	22	350	1,501	20	278
Bath	2,247	12	309	2,222	2	371	2,388	10	429
Bedford	475	16	15	658	5	39	655	12	88
Bland	328	8	20	641	1	136	668	6	186
Botetourt	1,212	26	232	1,356	6	344	1,179	20	241
Brunswick	754	0	13	804	0	15	880	0	45
Buchanan	0	0	0	0	0	0	0	0	0
Buckingham	2,641	0	57	2,192	0	62	1,804	Col.	0
Campbell	179	0	10	197	0	17	196	0	46
Caroline	1,318	0	41	1,390	0	59	1,773	0	92
Carroll	62	0	0	93	0	0	107	0	13
Charles City	1,084	0	0	818	0	0	699	0	24
Charlotte	307	0	29	388	0	23	348	0	82
Chesapeake	357	3	0	392	0	0	397	3	0
Chesterfield	1,401	0	28	1,012	0	10	961	Clo.	27
Clarke	221	0	33	191	0	15	271	Clo.	29
Craig	969	4	157	976	2	180	970	2	165
Culpeper	275	0	21	281	0	15	315	0	58
Cumberland	1,660	0	53	1,340	0	43	1,234	0	91
Dickenson	21	0	0	15	0	0	14	0	9
Dinwiddie	1,501	0	38	1,261	0	30	1,171	0	122
Essex	190	0	5	204	0	8	179	0	43
Fairfax	12	0	0	23	0	0	13	0	1
Fauquier	696	0	24	605	0	46	791	Clo.	97
Floyd	61	0	0	97	0	0	82	0	2
Fluvanna	1,882	0	25	1,462	0	19	1,150	0	37
Franklin	209	0	3	220	0	0	249	Clo.	208
Giles	321	9	223	809	17	272	791	9	274
Gloucester	370	0	0	371	0	0	322	0	6
Goochland	903	0	21	790	0	25	644	0	30
Grayson	548	0	19	1,279	0	25	1,272	0	159
Greene	75	5	3	65	13	6	91	10	10
Greensville	598	0	5	569	0	9	794	0	11
Halifax	425	0	53	430	0	47	544	0	62
Hampton									
Newport News	272	0	0	225	0	0	233	0	0
Hanover	362	0	0	313	0	0	284	0	20
Henrico	336	0	0	324	0	0	283	0	10
Henry	16	0	0	25	0	0	33	0	15
Highland	1,179	1	185	1,260	2	231	1,409	1	249
Isle of Wight	656	0	0	647	0	0	737	0	0
James City	440	0	0	316	0	0	181	0	3
King and Queen	369	0	17	398	0	15	437	0	70
King George	338	0	0	290	0	0	357	0	9
King William	533	0	9	418	0	20	454	0	49
Lancaster	441	0	0	420	0	0	421	0	0
Lee	73	0	0	81	0	0	82	0	0
Loudoun	602	0	12	605	0	0	761	0	44
Louisa	1,137	0	41	1,044	0	0	894	0	79
Lunenburg	356	0	9	424	0	6	631	0	33
Madison	102	18	2	79	21	6	107	27	18
Mathews	56	0	0	59	0	0	75	0	0
Mecklenburg	239	0	4	264	0	0	358	0	0
Middlesex	88	0	0	101	0	0	102	0	8
Montgomery	87	3	84	107	3	110	130	2	96
Nelson	415	7	14	409	8	29	543	8	93
New Kent	899	0	0	1,009	0	0	672	0	33
Northampton	26	0	0	44	0	0	44	0	0
Northumberland	514	0	0	453	0	0	422	0	0
Nottoway	1,107	0	10	1,122	0	11	986	0	49
Orange	290	0	25	280	0	17	401	Clo.	43
Page	385	17	29	381	11	47	8	11	89
Patrick	356	0	0	323	0	0	207	Clo.	19
Pittsylvania	386	0	8	506	0	10	590	0	36
Powhatan	1,694	0	16	1,464	0	30	1,737	0	59
Prince Edward	494	0	15	511	0	32	606	0	58
Prince George	1,259	0	11	955	0	0	825	0	28
Prince William	326	0	14	360	0	22	371	0	52
Pulaski	189	2	13	415	0	69	410	1	84
Rappahannock	887	13	232	983	6	360	477	4	36
Richmond	353	0	0	398	0	0	435	0	7
Roanoke	40	0	8	66	0	40	63	Clo.	27
Rockbridge	887	13	232	984	6	360	949	17	290
Rockingham	2,235	16	140	2,290	13	167	2,274	26	190
Russell	48	1	4	37	0	13	55	0	28
Scott	51	0	0	73	0	0	98	0	29
Shenandoah	1,276	0	151	1,497	2	234	1,493	0	218
Smyth	339	1	11	873	2	123	671	0	119
Southampton	2,723	0	0	2,533	0	0	2,802	0	14
Spotsylvania	766	0	17	508	0	13	526	Clo.	39
Stafford	543	0	12	552	0	6	657	0	35
Suffolk	457	3	0	503	0	0	437	2	21
Surry	1,323	0	0	1,536	0	0	1,297	0	21
Sussex	1,731	0	0	1,532	0	0	1,487	0	66
Tazewell	92	5	6	91	4	6	106	0	33
Virginia Beach	84	0	0	95	0	0	109	0	0
Warren	428	0	48	524	1	67	520	3	110
Washington	157	0	6	211	0	12	203	1	45
Westmoreland	164	0	0	197	0	0	205	0	5
Wise	46	0	0	88	0	0	57	0	43
Wythe	482	3	30	999	3	171	832	0	187
York	813	0	0	1,051	0	0	887	0	6
TOTALS	62,003	214	3,346	63,443	197	4,689	63,671	230	6,458



# LITTLE ELK OF ASSATEAGUE

By CURTIS J. BADGER

Ever thought you'd go elk hunting in Virginia? Sounds a bit far fetched, doesn't it? Thoughts of elk hunting are usually associated with week-long pack train treks through mountainous Big Sky Country led by wily backwoods guides straight out of Marlboro ads.

Actually, elk hunting is available in Virginia, but it's not what you'd imagine from reading accounts of elk hunting in the popular outdoor journals. There are a few basic differences. For one thing, the elk are hunted in terrain just a few feet above sea level, and, for another thing, the largest buck you'll encounter will probably weigh less than 100 pounds field dressed.

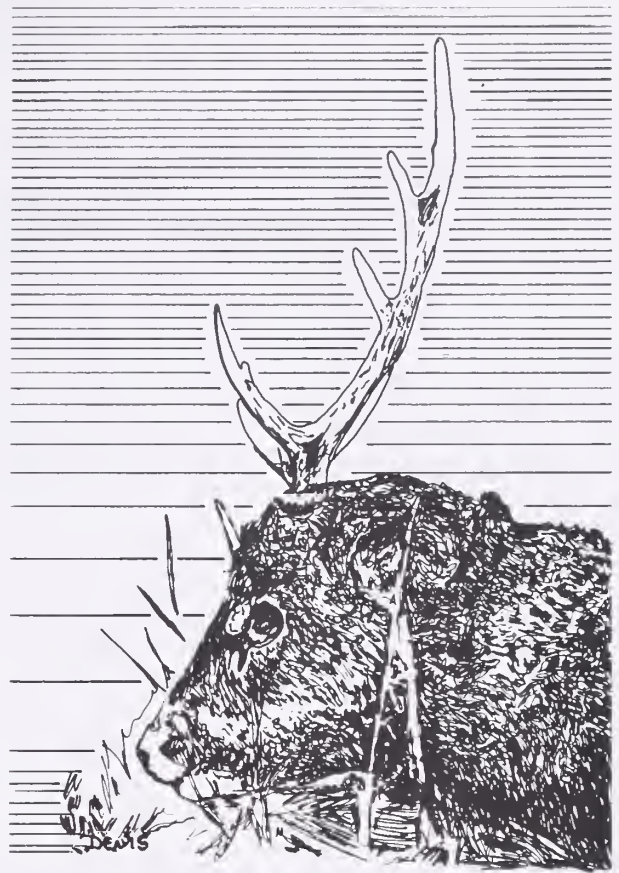
Okay, time for an explanation. Virginia's elk population is an import from Japan, and the small Oriental elk are more commonly known as Sika deer. Sikas have been hunted legally since 1964 on Assateague Island on Virginia's Eastern Shore, just a long passing shot from the Atlantic Ocean.

How the Japanese elk got to the sandy barrier island, and how the herd was developed into a viable hunting resource is an interesting story.

In the 1920's a group of boy scouts introduced six Sika deer to Assateague as part of a wildlife project. At that time, the island was privately owned (the federal government did not assume ownership until 1943 when the Chincoteague National Wildlife Refuge was created). The scouts kept tabs on the deer for a few years, but eventually the project was forgotten and little research was done on the animals for nearly two decades.

Old timers on Chincoteague tell of hunting parties crossing the narrow channel that separates Chincoteague and Assateague to hunt Sikas. Hunting pressures kept the population low until federal agents clamped down on poachers in the late 1950's.

At the end of the 1940's, the Sika herd on the island was estimated at less than 25 animals, but by late 1961 the population had swelled to about 230.



Ironically, it was a tragic flood that indirectly triggered a dramatic increase in the Sika population. In March 1962 a northeast storm hit the islands of Chincoteague and Assateague, driving hundreds of residents from their homes and destroying thousands of dollars worth of property. The high tides covered the islands, flooding all the impoundments on Assateague and destroying much vegetation.

When the flood waters receded, heavy equipment was moved in, land was cleared, and new dikes and impoundments were created.

"This manipulation must have greatly improved deer habitat," says J. C. Appel, manager of the Chincoteague Refuge. "It opened up stands of myrtle and greenbriers which were previously very dense. The Sikas spend most of their time in the greenbrier thickets, in swampy areas and along the fringes of the marsh."

Appel says the Sika herd grew tremendously after the habitat was altered in 1962. "By 1963 the deer population was estimated to be 1,300, and a browse line was becoming evident on the island. With the population climbing at a high rate, we opened the refuge for public hunting for the first time in 1964."

Appel said 237 deer were harvested that first year, 292 were taken in 1965. By 1966 all evidence of a browse line had disappeared and a healthy population of Sikas remained as good deer habitat. That year only 65 deer were harvested.



Through management and controlled hunts, the deer and deer habitat are remaining in good condition on the Chincoteague Refuge. For the past two years the population has held stable at about 700 animals.

Since the refuge opened to hunters in 1964, the Sika have become popular game, especially for bow hunters. In 1977 22 animals were taken, 10 with guns and 12 with bows.

The little Sikas have become prized not only as challenging game animals, but many veteran deer hunters claim their meat has a better flavor than that of whitetail deer.

Sikas are very secretive animals, and their small size enables them to sneak through even the densest undergrowth, thus they are a challenge to even experienced hunters.

In 1977-78 the Chincoteague Refuge will again offer separate seasons for bow hunters and for hunters using guns. The archery season will coincide with the state archery deer season. The stag hunt will include six five-day hunts during the period from November 14 through January 5. Whitetail deer, raccoon, fox, and opossum may also be taken during the season. Because the endangered Delmarva Fox Squirrel and Peregrine falcon are on the refuge, taking squirrels or birds is strictly prohibited.

Limits for the archery hunt is one Sika per day and three per license year. At least one of the three must be a female which will be tagged with a Virginia nuisance deer tag.

One animal per day and three per license year is also the limit for the stag hunt. The first deer must be an

adult female or buck with unbranched antlers. The second and third may be either an adult female, unbranched buck, or a trophy buck with five points or more. Hunters may not take more than one trophy stag or more than two adult females.

Hunters must also abide by all state regulations. Hunting hours are the same as state hunting hours.

In addition to meeting state hunting requirement, hunters must also abide by a series of regulations governing hunting on the refuge. The requirements include passing a state hunters safety course; archers must pass the National Field Archery Association Bow-hunters Education Program or equivalent course, plus pass a proficiency test. Hunters using rifles or shotguns must also pass a proficiency test.

Hunting is permitted only on certain areas which are designated on maps supplied by the refuge. Comprehensive information on hunting regulations and requirements for a refuge permit can be obtained by writing the Chincoteague National Wildlife Refuge, Box 62, Chincoteague, Virginia, 23336.

The development and maintenance of the Sika herd is a microcosm of the ancient relationship between the hunter and the game. It shows that man is, and should be, a direct participant in the natural cycle of life. Modern technological society has created an atmosphere in which man regards himself as an elite species, an animal isolated from the lower forms of life which he views from some lofty pinnacle. The Sika story shows that man does have a role in the natural order of things, not only as a protector, but as a hunter as well.

*Sika Deer standing in the road amidst typical pine-bayberry habitat.*





# *FIRE as a Management Tool*

By JARED SIMS

One of the major problems in game management is the maintenance of open areas. The open and brushy areas so important for game production are constantly growing out of a productive state. Plant succession is constantly working against the game man-

ager with open areas becoming brushy areas, then growing into measurably less productive saplings. By using bulldozers, pulling a disk or a drum chopper on rough land and/or possibly a farm tractor with a bush hog on the smoothest land, we can set plant succession back. However, it is a hard battle to win. Lack of man-





power, equipment or money all add up to a difficult situation in keeping fields open and productive.

Game management personnel use a program of prescribed burning on state-owned wildlife management areas to develop and maintain good habitat. The use of prescribed fire combined with agricultural leases on crop lands and timber sales on forest land provide game habitat at low cost.

Prescribed burning is an important management technique on Piedmont management areas. On the 2,715 acre White Oak Mountain public hunting area located in southside Virginia, fire is used to keep the land productive for wildlife. Prior to its purchase, this area consisted of a large number of small farms growing tobacco and other crops, primarily in small fields of 30 acres or less with an abundance of hedgerows and patches of woods. This diversity in cover makes the land a natural for small game production. The variety in habitat assures good populations of quail and rabbits. Deer populations are also increasing on the management areas and in the surrounding countryside.

Land that is suitable for cultivation is kept open and productive through the use of agricultural cropping. Planting is done by the area personnel or through a system of leases. Leases are the preferred method as they produce good habitat at less cost than paying men to do the planting. The leasing arrangement generally provides for a portion of the crop to be left in the field for the rental fee. This provides an abundance of food for wildlife.

*Burning encourages annual plants which provide food for wildlife.*



Fields that are not suitable for cultivation present a problem. These areas are constantly growing out of productive habitat. We cannot possibly hope to keep these fields productive without the use of controlled burns.

Current management plans call for burning 250 to 300 acres on White Oak Mountain per year. The plan is to treat blocks of from 4 to 100 acres in size on a rotation of three years or more depending on the avail-

able fuel. The major purposes for burning can be divided into the following three major areas.

(1) To retard plant succession by killing hardwood, cedar and pine regeneration. (2) Reduce rough and create more palatable herbaceous material. (3) Increase herbaceous seed production.

The major goal is to provide improved small game habitat. However, deer also benefit by the increase in herbaceous material production.

Our burning helps us to retard plant succession by killing many of the pioneer tree species that invade open areas. Much of the success in killing these young trees is dependent on the intensity of the fire. As intensity is related to the fuel, slope and weather conditions, there are varying degrees of success. Burns have killed every small tree and those that have killed very little. All of them, however, retard plant succession to varying degrees.

Prescribed burning improves game habitat by reducing the rough and by creating more palatable herbaceous material. The new growth of forbs, grasses and browse following a burn provide an excellent source of highly nutritious food for deer and rabbits. Legumes are often found in abundance following a fire but are found in only trace amounts on unburned plots.

An increase in herbaceous seed production is found following burning. The increase in vigor and number of seed producers found in a burn area provides much needed food for quail and doves. Partridge pea, lespedeza, beggars lice, and other seed producers are found in more abundance in a fresh burn than in an unburned area.

The timing of a prescribed burn is very important. In order to create the best possible habitat, a winter burn is the most desirable. Before the spring green-up, the dry herbaceous material burns well. After the spring in late March, quail are nesting and a spring burn would destroy many nests. Most of the burning at White Oak Mountain occurs during February when conditions are suitable. Early March would be desirable. However, the forest fire laws in Virginia come into effect prohibiting burning prior to four o'clock. There have been some years in which there is a period of rainy weather and are unable to burn at all. However, in other years, it is feasible to burn the entire planned acreage.

Only trained personnel should ever attempt to use fire as a tool. The possibility of a controlled fire turning into a wildfire is a real one. Therefore, the utmost care must be used. Fire lines must be constructed, crews of seasoned men assembled, local forest wardens and fire departments notified and State Air Pollution Control Board's permission obtained. Careful planning is imperative.

Fire is an important tool in developing small game habitat on White Oak Mountain and on our other game lands. Better habitat can be created at a lower cost by using prescribed burning than by using any other method.





Biologists (above) use an air boat to get "on top" of the marsh at high tide. Using nets, Game Commission biologists attempt to capture and tag clapper rails as part of an overall study of the bird. Research biologist Joe Joggin (below) heads up the project.



A freshly caught clapper rail. This bird, caught when almost flightless in September, will be banded and released. Return of these bands helps biologists check clapper rail migration schedules and routes.

## To Band A Rail !

A flock of whimbrels rise over the marsh. These and other birds share this Eastern Shore marsh with the clapper rail.



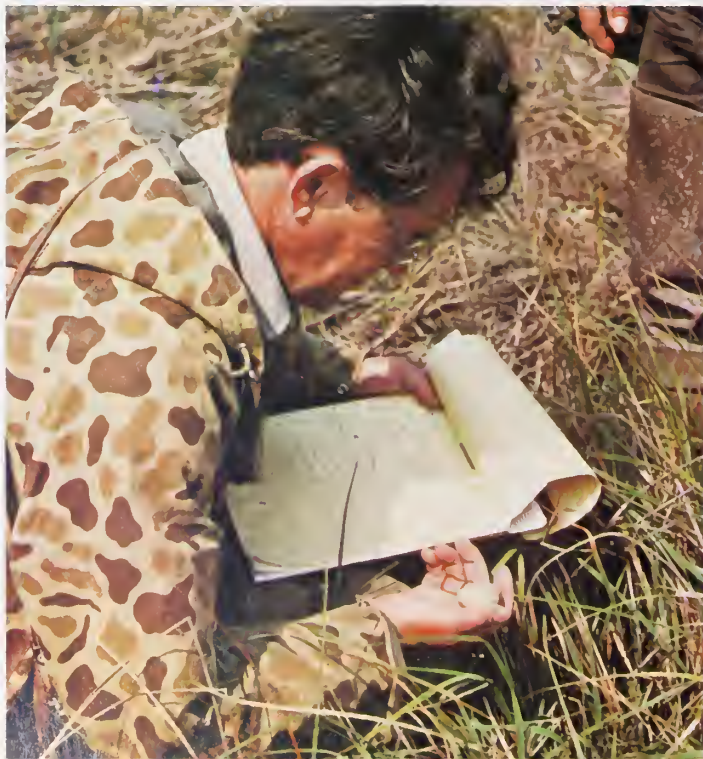




*Fairfax Settle uses a small boat to capture rails that get away from the airboat netting crew. The banding process (upper left) is painless and the bird is usually unconcerned about the whole affair. Here Charles Gilchrist (l) and Granville Ross apply the band.*



*Joe Coggin (above) searches the marsh for a clapper rail nest. The information gained from this nesting study (below) provides valuable clues into the nesting habits of this important game bird.*



*Once found, the nest is revisited several times during the spring nesting season to determine hatching success and survival. The effects of weather, high tides, and predators on rail reproductive success are studied.*





# BROADHEAD BASICS

By G.W. Wade

One October Saturday I stood by the check-in point of the Presquile Island National Wildlife Refuge. Standing there gave me a good opportunity to watch the other hunters coming for a day's hunt on that island. I was given the ideal chance to observe the other hunter's weapons and equipment. As I stood there and watched, an undeniable feeling of concern began to develop.

Out of the thirty or so people that I saw, I counted no less than six (20%!) carrying their arrows in bow quivers that offered no form of protective hood for their broadheads. At least two of these hunters were using broadheads of the razor insert variety. With broadheads carried in this manner, it takes no more than a simple fall to produce a serious, in not fatal, accident.

Anyone who is using a quiver that does not have a detachable hood for the cover is taking an unnecessary risk. This may easily be compared to walking through a thicket with an unsheathed knife in the hand.

I would like to see a state regulation prohibiting the use of quivers that don't afford the hunter some protection from the broadhead. This would serve to protect the foolhardy and the novice, as well as the experienced and careful bowhunter walking beside a hunter carrying exposed heads.

The second item that caught my attention was the number of people who were using "out-of-package" broadheads without any sign of sharpening. An arrow performs its task by bleeding the animal. In order to do that properly, a broadhead must be razor sharp. Without that razor head, the kill is not quick and clean. Bowhunters should, above all, be hunting humanely.



*Here two hunters demonstrate the correct and incorrect way to carry broadheads.*





## OAK BRANCHES

By Gay Weeks Neale

Some days I sit and look at oak trees and wonder about them. I cannot understand how they hold their branches up. It seems so simple, and it is something that we take for granted. But, like the bumblebee's flight, it seems truly impossible.

I know an old oak with branches almost as large as the trunk, gnarled and twisted, going out at impossible length and right angles. Another tree has a branch that extends over 35 feet into space. Even bare of leaves, it must weigh a considerable amount. Judging by the weight of a two-foot piece of firewood of a comparable width -- dry firewood mind you -- that bare branch must weigh over 500

pounds. Anyone who has ever raked leaves knows that one leaf is a small thing, but a bushel is pretty heavy.

Not only do oak branches stand firm in high winds, their branches only swaying gracefully, but they also do not yield easily to excess weight put on them. When I was a child, we were told not to climb on branches smaller than our arms. That rule of thumb -- or arm -- was broken with our swing, which hung from a high straight oak branch only a few inches in diameter. Everyone swung on that swing, including my father and mother.

There are several reasons why oak branches don't sag or sway. When a branch begins to grow, it is an extension of the current

layers of tree growth. As the years pass, and newer outside layers extend the branch's girth and that of the entire tree, the inside layers are still there, bound like a single continuous tendon from the branch, down through the trunk and into the roots. This goes on every year, with each new layer of cambium being joined through the trunk in a single layer. As the center wood of the tree dies, and the life sustaining growth becomes farther and farther from the center, that center wood serves as a giant beam, linking the whole tree structure and supporting the cantilevered branches.

The reason all this massive structure does not topple of its own weight, a wonder with trees whose branches are all on one side or that lean precariously, is that the roots act as a brace. Roots of oak trees echo the branches above them. There is as much growth below the ground as above, with offshoots going in identical directions as the limbs above, so far as rocks and the other things deep in the earth will permit.

Oaks are constructed of more dense, less flexible wood than lighter wooded trees such as willows or pines. They resist the flow of wind, they have such strength that they do not need to bend.

Occasionally a limb will fall, but it is always an old, rotten remnant. "Nature's pruning hook," a Yankee friend called the wind one day, watching a storm ride through.

So, the giant branches parallel the horizon, only waving politely in the wind, never whipping or breaking. It is still a miracle to me that they are able to reach out, strong and graceful.

Prints of John Taylor's bluebird are now being offered for \$4.00. The prints measure 9" X 12" and are also available matted for \$6.00. For prints and an attractive brochure of other art work contact, Heritage Arts, Rt. 1, Box 175A, St. Michael's, Maryland 21663.





# Kaleidoscope



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## Virginia Wildlife

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SEND US YOUR FAVORITE OUTDOOR PHOTO  
IN ONE OR MORE OF THESE CATEGORIES:

- (1) NATURE
- (2) PEOPLE IN THE OUTDOORS
- (3) VIRGINIA'S WILDLIFE

Prizes will be \$50 for first place, \$30 for second and \$20 for third in each category. Additional \$10 honorable mention prizes will be awarded at the discretion of the judges. *Virginia Wildlife* reserves the right to publish any of the winning photos on its pages. All entries will be returned. Entries must be 35mm or larger transparencies or 8 x 10 prints.

Send entries to Wildlife Photo Contest  
P.O. Box 11104  
Richmond, Virginia 23230

CONTEST DEADLINE — JANUARY 15, 1978



# Conservationgram



VIRGINIA WATERFOWL SEASONS SET. The Virginia Commission of Game and Inland Fisheries approved a 50-day split waterfowl season for Virginia with limits to be governed by the point system during their meeting August 31, 1977, in Richmond. The first half of the duck season will open at noon, Wednesday, October 12, and close October 15. The second segment will begin at noon, Wednesday, November 23, 1977, and close January 7, 1978. Bag limits as determined by the point system will be basically the same as last year, except that wood ducks will be 25 point birds during the October portion of the season and 70 point birds during the final segment.

Sea ducks will be legal game during an October 6, 1977, through January 20, 1978, season with a bag limit of 7 daily and 14 in possession except where these dates overlap the regular duck season, at which time the limit will be 10 daily and 20 in possession. A special bonus scaup season will begin after the regular duck season ends and extend until January 23, 1978. The bag limit during this period will be 10 scaup daily and 20 in possession.

A three-way goose season was approved as permitted under the federal framework. The general statewide season will be November 12, 1977, through January 20, 1978, with a bag limit of three Canada geese daily, six in possession. In the Chesapeake-Virginia Beach area goose season will coincide with the duck season, October 12th through 15th, and November 23, 1977, through January 7, 1978, with a bag limit of 1 Canada goose daily and two in possession. On the Eastern Shore in Accomack and Northampton Counties, the goose season will extend from November 3, 1977 through January 7, 1978. The bag limit on snows will be two daily and four in possession.

Also established were seasons on woodcock, snipe, gallinule and coot. Woodcock season will open October 31, 1977 and end January 3, 1978, with limits of five daily and ten in possession. Snipe season will begin October 17, 1977, and end January 31, 1978, with eight permitted daily and 16 in possession. Gallinules and coots will be hunted on the same dates as ducks. A special season for falconers was approved, extending from October 6, 1977, through January 20, 1978.

ATTENTION, NORTH ANNA FISHERMEN!!! Biologists from the Virginia Electric and Power Company's North Anna facility have announced a fish tagging program which is now in operation at Lake Anna. Scientists conducting the fish tagging study are working primarily in the waste heat treatment facility of the lake. Data obtained from recaptured tagged fish will furnish valuable information on the movement and growth of Lake Anna fishes. In order for this type of fish sampling technique to work, biologists need the cooperation of anglers fishing the area. Fishermen should look at the base of the dorsal fin on any fish they catch for a colored and numbered tag.

If you catch a tagged fish, the VEPCO Biologists request that you record the following information: color and number of the tag, location of the catch (as accurately as possible), date and time of catch, and the length of the fish from the tip of the snout to the end of the tail. If you wish not to record the information, you may freeze the fish and arrange for collection. The following phone numbers are available for anglers wishing to pass on information on tagged fish or to arrange for pickup. You may call these numbers collect, Monday through Friday: 804-771-3181 or 703-894-5151, ext. 323. On Sunday, the number is 703-894-4394.



# Virginia's Hottest Lake ?

By BUCK SNELLINGS





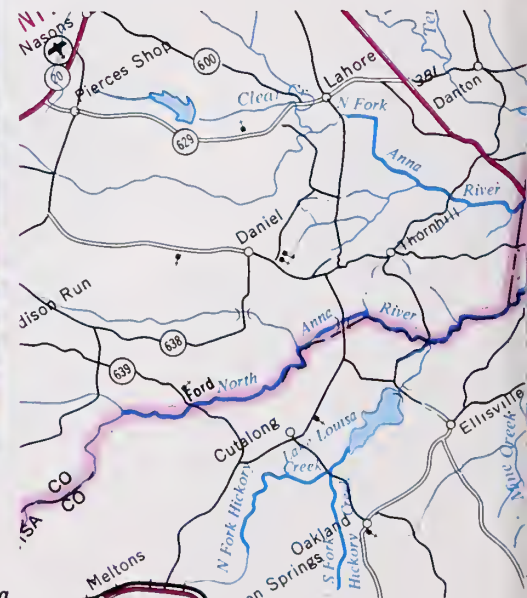


Central Virginia's Lake Anna, according to some observers, has the potential to give a hot fin to the fish that swim within its shores. The lake, part of the reservoir system for VEPCO's nuclear power plant, did at one time prompt this dire prophesy. Now the lake appears to have a bright future.

The reactor, scheduled after several delays to finally become operational in the late fall of 1977, is the key to the controversy over Lake Anna's success or failure as a top-notch lake for Virginia fishing enthusiasts.

From the beginning of the lake's history there were those who forecast doom. Many feared that the three cooling ponds between the reactor itself and the lake would be insufficient to regulate the water temperature of the water flowing into Lake Anna. Also, a heavy metal content in the area's watershed was expected to cause metal poisoning, or at the very best create a chain of chemical reactions that would result in producing a heavy carbon dioxide concentration in the fish that would have the effect of smothering them. Concern about the metal content of the water was based largely on one of the feeder sources of the lake, the highly polluted Contrary Creek.

A one-million dollar federal grant for removing mining wastes and reducing run-off effects has done much to stabilize the influence of



Map Courtesy, The Alexandria Drafting Company, Alexandria Virginia.



Contrary Creek. Additionally, the feared threat of a build-up of deadly poisons from abandoned mines within the watershed has apparently not materialized.

VEPCO officials appear extremely optimistic about the chances for good fishing in Lake Anna's waters. Dr. Morris Bremmer, Executive Manager of Environmental Control for the utility company, stated that he feels "fully confident that Lake Anna will be dynamic lake." Bremmer compares Lake Anna with Lake Sangchris, located in Illinois. In that lake the fish tend to feed earlier in the spring and later in the fall. The fish have a longer growing season, according to Bremmer, and thus tend to run larger than similar fish found in other lakes. Dr. Bremmer feels that Lake Anna will peak and stay at that high level of production, instead of peaking and falling off, as is usually the case.

Dr. Bremmer feels that the pond cooling system designed for Lake Anna by VEPCO engineers will be a more than adequate protection against the heat generated by the reactor. He indicated that there are many coves in the lake where the fish could move until they find a spot comfortable for them, should the temperature vary at any time.

Bill Kregloe, a Pollution Control Engineer working in the area for the State Water Control Board, tends to

agree with Dr. Bremmer when discussing the future of the lake. In referring to the controversy over the metal content of the reservoir, he indicated that the sediment in the lake would be a sufficient method of control. He also expressed agreement with Dr. Bremmer in that he also feels that the cooling pond system should be adequate to successfully regulate the temperature of the water in Lake Anna.

Charlie Sledd, a fish biologist with the Commission of Game and Inland Fisheries, sees the situation in much the same light as Bremmer and Kregloe. Sledd, in speaking of the lake's fish population, agreed with Dr. Bremmer in his prediction for a longer fish growing season in Lake Anna because of the slightly higher than normal water temperature. Sledd also mentioned the possibility of more winter time fishing on Lake Anna than in other similar areas in the state.

All three of these experts indicated that they expect the water in the lake to rise no more than one or two degrees once the reactors do finally



become operational.

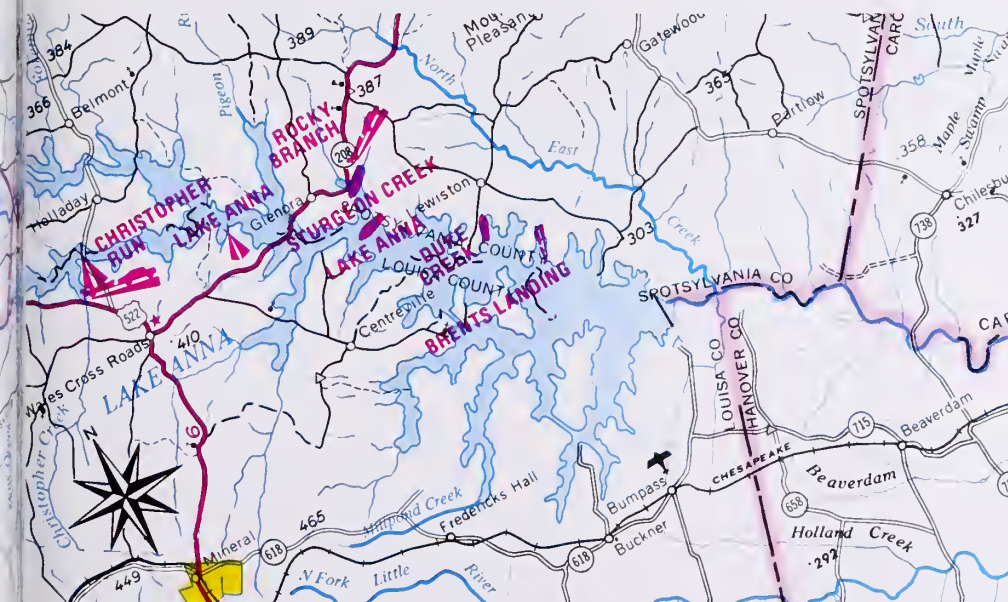
Bass fishing has been good in the lake, with largemouth bass fishing on the upswing. Citation-size bass and chain pickerel have been caught with great frequency in the lake, along with two citation channel catfish, one yellow perch and one crappie — all of these within the period of January to June, 1977.

A problem of lack of access plagued the lake in its early years, but that problem now also appears to have been solved. Private marinas and boat ramps have been added and the Commission of Game and Inland Fisheries also maintains a boat launching ramp on the Lake.

In addition, the state park system has begun the acquisition of land that will ultimately become a 2,080 state park, complete with its own marina and boat launching facilities.

Lake Anna is located on Interstate 95, just south of Fredericksburg.

After a not-so-promising beginning, the future now looks bright indeed for Central Virginia's first nuclear reactor reservoir. The prospects for continued top-notch fishing appear excellent.







# AUTUMN-TRANQUIL



*Mel White Photo*

*Photo By Satterlee*



*Mel White Photo*





# TRANSITION

By BOB BELTON

Hints of autumn descend quietly on the wind, beginning as early as mid-August. A few days are so unexpectedly clear, cool and fresh that you literally taste the difference. But summer's sizzling simmer is not ready to relinquish its sticky, sweaty grasp and you must endure awhile yet.

A mass of cool Canadian air sweeps in just before Labor Day; you are dazzled by the clarity of the view of the Blue Ridge, the fire tower on Heards Mountain, the barns and pastures tucked near the head of a dog-leg hollow. Rising mists resemble wood smoke; you wish. .

But your head wins the debate with your heart and you realize that the tingle of wood smoke in your nose is still not to be. The beginning of the slow down in the rate of photosynthesis, combined with the dryness of July and August, has produced, however, considerable yellowing in many poplar trees. Blueberries, sumac and white ash show varying shades of red. Still all this is only a teasing suggestion of what is to come.

Labor Day! Traditionally at our house not a time of travel and play, but of actual labor, normally quite physical. You know summer's yet in control by the sweating and thirst generated by clearing land of 15-inch oaks or repairing washed-out sections of gravel driveways.

And yet, Labor Day is a signal to expect the weather changes that bring on "Fall," when our broad-leaved deciduous trees shed their leaves after varying degrees of spectacle. The leaves change their color as the green chlorophyll pigments break down, partly due to changes in the amount of daylight and variation in temperature. Then the reds, purples, oranges and yellows — present all along — show up in varying degrees. By autumn's official beginning on September 22, definite signs of the impending spectacle appear: clearly noticeable changes in leaf color, as the chlorophyll breakdown advances; those misty mornings produced when night air is cooler than the day-warmed land and water on which it descends; the much awaited scent of smoke from fireplaces or the few remaining wood cook stoves; hay "loaves" accumulated in

pastures from summer mowings (or baled and stacked to over-flowing in barns); chain saws busily buzzing as they aid in accumulation of fireplace or stove wood; fresh apples and newly-made cider for sale along the highways (in those years when Jack Frost hasn't reached out a freezing hand and smitten the too-soon-opened blossoms).

Later into the season we waken to find frost sprinkled on the lowlands, like confectioners' sugar and then more thickly, like a thin coat of icing. Trees burst into riotous competition as maples sparkle in fiery red, orange and yellow. Dogwood, sassafras, northern red oak and scarlet oak turn shades of red. Poplars and hickories glow in brilliant yellow. Beech turns to golden bronze and other oaks turn yellowish or a soft brown that makes an ideal background for their showier neighbors.

Dove season by now has been in for weeks and many a boy/man or man/boy feels a quickening in his blood at the prospect of stalking the fields and woods with a high-spirited English Setter, a pointer, or a Brittany Spaniel, in search of the elusive quail.

Deer season opens, as well as that for rabbit, squirrel, grouse and other game species. Clean, sparkling mountain streams are stocked with autumn's portion of the year's trout allotment, and those anglers who venture onto the rivers and lakes in September, October and November are often rewarded with hefty strings of bass who hungrily gobble bogus "meals" to fatten up for the lean months of winter.

Fortunately, one doesn't have to hunt or fish to enjoy the autumn woods. Many rewarding hours or days can be spent hiking or just exploring nearby fields and forests, journeying to state parks or to Shenandoah National Park. Big Meadows is particularly beautiful when blueberry bushes don their red-yellow-green autumn coats and stand out in low contrast to neighboring shrubs and grasses and to nearby bull thistles. Birds are on the move, golden rod and asters bloom well into the season, and the clear, crisp air beckons. "Come see, experience me," is the seductive call, "I'm better now than I have been or will be."

Cool, invigorating, curing summer's lethargy, preparing all for winter's harsh grip, autumn is a bitter-sweet time of reflection, summing up, a change from the season past and a commitment to the coming seasons. More than the "dying" of summer, autumn signals a renewal of the natural cycle, a time of tranquility, leading to a time of rest before the rigors of spring to come.

Autumn is too valuable to let slip away. Grab it, experience this refreshing tonic, this resplendent representative of the changing seasons.



# Personalities

*Photo and text by Francis N. Satterlee*

**WILLIAM A. KANTZLER**  
Supervisor, Amelia Wildlife  
Management Area.

Bill Kantzler's father was a rural mail carrier who also ran a country store in the community of Mattoax near Amelia, Virginia. It was in this type of atmosphere plus a continuing exposure to the animals and wildlife, and the chores and delights of Bill's grandfather's farm that he grew up. During the years that he spent his summers doing the farm work, he learned about hunting and came to the realization that it was in the outdoors that he wanted to be. . . as much as possible.

He married the former Stella Poore of the Pine Grove section of Amelia after completing his schooling in Amelia and went into the trucking business for himself while continuing to farm.

In 1945 Bill purchased a 328 acre farm near Amelia, farmed it for 21 years and then sold it to the Game Commission to enable the completion of what is

now the 2,067 acre Amelia Wildlife Management Area. The next year he was hired by the Commission as an hourly worker. His principal responsibilities were the farming and general maintenance of both the Amelia and the Powhatan areas. In 1971, Bill became a full-time employee of the Game Commission as Supervisor of the Amelia Wildlife Management Area.

Although he plans retirement as a State employee on November 1, 1977, Bill claims that it is only a formality for he plans to really get at things that have been let go on his own 46-acre home place. And, with an engaging twinkle in his eye, he also claims that he will probably be back around Amelia WMA. . . just to help out if he is needed.





# IT APPEARS TO ME

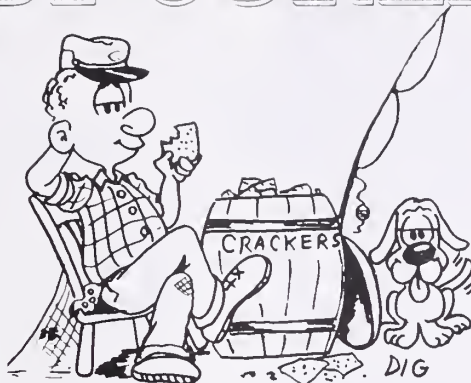
## BY CURLY

### ... A PERSON OUGHT TO HAVE ONE

The good folks over at the Environmental Protection Agency (EPA) have recently picked up the tab on a study called "Open Space As An Air Resource Management Measure." Addressed at determining the effectiveness of open space as a filtering device of air pollution, the predictable results indicate that open space of the type found in city parks, highway rights-of-way, green belts and the like are effective if properly planned and managed. The study is available in limited quantities from: Library Services Office MD35, Research Triangle Park, North Carolina, 27711.

Although not free, the cost is so low they fall into the "Nearly Free" category . . . these recent publications by Keep America Beautiful, Inc. KAB has produced four dandy little do-it-yourself type brochures aimed at keeping us grass-rooters informed and up-to-date on environmental improvement programs.

"Receptacle Placement Tests", a booklet with a self-explanatory title, along with "Keep It Clean: A Plan for Waste Management at Outdoor Events" sell for \$.50. Keep America Beautiful has also available at the same price "Rural Waste Management", a booklet designed to help local decision-makers. "Recycling: Establishing a Citizen-Sponsored Reclamation Center" deals with a subject that is gaining increasing popularity. It applies the Clean Com-



munity System approach to the development of recycling projects. All four of the booklets are available from: Keep America Beautiful, Inc., 99 Park Avenue, New York, New York, 10016.

### ... FOR YOUR BOOKSHELF

George Huber, you will perhaps remember as having been the enduring outdoor "voice" for the Washington Star prior to his retirement, has authored a delightful dissertation on the piscatorial art. Entitled *Panfish Fishing*, the paperback is a light and breezy, yet thoroughly informative treatise on the pastime which made Izaak Walton a household word among sportsmen. *Panfish Fishing* is available for \$3.50 from: Fisherman, Box 187, Etlan, Virginia. *Hiking Virginia's National Forests*, a brand new comer on the book scene, not only is packed with practical information, but in itself is easily packed! Pocketable due to the small size, it is brimful of the kind of detail that all hikers will wish they had prior to some of their previous adventures. Descriptive down to the last kilometer, the details involve 50 hiking trails in both the Jefferson National Forest and the George Washington National Forest. Somewhat high-priced, but very practical,

\$6.95 will get you *Hiking Virginia's National Forests* from: The East Woods Press, 6000 Kingstree Drive, Charlotte, North Carolina, 28210.

Almost as a companion-piece to the publication described above, is a relatively new book by Bradford Angier entitled *Color Field Guide to Common Wild Edibles*. Angier has listed some 63 plants which are common along most trails, are free and, more importantly, are edible! A portion of his description of *Highbush Cranberry* provides a hint of what the book contains " . . . shriveling but remaining on the branches all winter, the unmistakable fruit can be an important survival fruit in numerous Northern regions. Too, once one has acquired a taste for these distinctly flavored berries, a frozen cluster melting on the tongue like sherbet is an unforgettable taste treat." The book is pocket-size and available for \$2.95 from: Stackpole Books, Cameron and Keller Streets, Harrisburg, Pennsylvania, 17105.

### ... AND THEN

It seems as though it might be well for all of us to consider providing our families with a better idea of where we have gone to hunt or fish. That way if we fail to return within a reasonable time from our adventure either afield or afloat, those at home will know where to start looking . . . and who knows, the time saved might just be a life-saver . . . ours!



# Growing Up Outdoors

Edited by Sandy Coleman

## October Visitors

Matthew felt the chill in the air as he woke up on a cold October morning. "Better wear a sweater to school today so I won't get cold," he thought as he put his feet down on the chilly floor.

"Matt, are you up?" his little sister Amy called. "Mom's got breakfast ready. You better come down now so we won't be late."

Some time later Matt and Amy were walking the six blocks to school. "Nothing ever changes along this way," Matt grumbled. "It's the same old walk every day. I wish something new would come along. Then it wouldn't be so bad."

Just then Matt heard a strange honking coming from the bright blue morning sky. "Look, Amy, that looks like geese!" he said pointing to the vee shaped formation of large birds. "Well," he added ruefully, "pictures that I have seen of them anyway."

Matt was puzzled. Their small town was not very near the ocean. "I thought geese were shore birds," he thought. He made up his mind to talk to the school librarian that very day.

Matt was anxious to get to the library and could hardly wait until third period, his class's turn to visit the bright yellow room with the inviting tables and shelves of books.

"Miss Duncan, could you help me find a book about geese?" Matt asked the librarian.

"Certainly, Matthew. What kind



*Illustrated By Diane Grant.*

of book did you have in mind? A book about geese in general, or was it something in particular that you would like to know," Miss Duncan replied.

"Well, this morning on the way to school I saw some geese flying in the sky just a few blocks from here. I thought geese lived near the ocean. What could they be doing here? Maybe there was something wrong with them."

"No, Matt, there wasn't anything wrong with them," said Miss Duncan. "You have stumbled across one of the most interesting things in nature. Those geese were migrating."

"Migrating? What does that mean, Miss Duncan?" Matt said with a puzzled look on his face.

"Well, the birds were flying down from their Canadian home to spend the winter here in Virginia and in other states like ours. You see, we have a much warmer winter season here than is usual in Canada, or even further up north in the United States. They spend the winter here, then, in the spring they fly back up north. This is a pattern they follow every year," Miss Duncan explained.

Matthew was fascinated with what Miss Duncan had told him. He checked a book out of the library

about migrating birds so that he could learn even more.

Matt was proud to be able to tell his father and mother at dinner that night everything he had learned about migration habits of wetland birds.

"We live in a state that is part of The Atlantic Flyway," Matt told his interested family. "The birds fly down from the north to spend the winter here in Virginia. They fly to other states, too. If it gets too cold here during the winter, they might even fly further south to escape the cold."

"That's right, Matt," said his father. "That's why the duck hunting season in Virginia is during the winter. That is when the ducks are here."

Matt began to watch the skies and he was rewarded with sights of many different kinds of birds. He made a special study of wetland birds.

"You know what, Amy?" he said as the two were raking leaves. "It is a lot of fun to watch for the birds and then try to identify them. I got a bird identification book out of the library so that I can try to tell what all of them are." Amy, who was still in kindergarten, looked a little doubtful.



# A SONG TO THE SUMAC

By PORTIA MEARES

Sing praises to the Sumac! I can get rhapsodic about Rhusads, the drink made from the Sumac berries. Eyebrows raise. Eyes widen, "You mean Poison Sumac!?" That's the never-fail adult reaction when I pass around pink Rhusads in tall glasses in the early fall. I explain. They sip suspiciously, gingerly, don a relieved smile. Moments later they ask for more. Most people agree that it tastes like strawberry-flavored lemonade.

There is little danger in confusing the Dr. Jekyll red-berried Sumac with its Mr. Hyde poisonous cousin, because the skin-irritating Poison Sumac has widely spaced whitish berries borne on shiny leaves and is found in swamps and marshy places. Its high class red-berried relative grows best in full sunshine. Until fall the leaves are a dull velvety green. When the days grow short and cool October nights signal the winter ahead, the leaves of this eight to ten-foot shrub turn in uncompromising crimson. The red-berried fruits, ripening in late summer suggest a cranberry ice cream cone held high like the liberty torch. Other smaller Sumacs are similar in shape, color and flavor. Several of these less assuming species can be frequently found growing side by side with the giant Staghorn Sumac.

For fullest flavor the fruits should be seed hard when you pick them. Many foods in the forager's almanac are available only briefly. Fortunately Sumac season is six weeks or longer. However, if the weatherman says a hard rain is on its way, grab your clippers and race the raindrops to the ripe Sumac and gather the fruits before the flavor is washed away. You can throw them into a paper bag and put them in a dry place until you're ready to use them.

If you're my age — that is, close to creaky — and small fry visit you frequently, you can count on achieving status in their eyes by introducing them to the lemonade tree. If their parents are armchair ecologists, preferring to get their nature kicks from Jacques Cousteau films, you can have fun with their young ones by going on a Sumac hunting raid. It doesn't take long. Any roadside where the sun shines most of the day will yield an easy bushel. When you come back, divide the loot so that some can go home with the kids (masked frowns from the parents — serves them right!). Snip the fruits from the main stems, examining them for gross signs of insects. If you are finicky, you can rinse them lightly, but too much washing sends the flavor down the sink drain. Don't worry about the smaller stems. Just dump them and their hard little berries in a big pail or bucket. Toss in about half again as much water as you have Sumac and rub the berries together under water vigorously. Great



splashing, messy, noisy fun. When all hands are thoroughly coated with red velvet fuzz you're half through. Ten or fifteen minutes of hard rubbing the flavor into the water is about right.

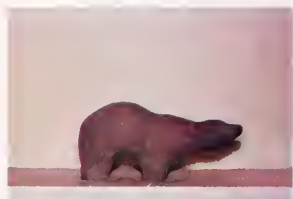
To get rid of the gross material pour the whole thing through the largest colander you've got, then through a metal sieve, and finally twice through a cloth to get rid of the tiny red hairs that contain the malic acid that gives the drink its flavor. I use two layers of an old washed pillow case as a straining cloth. To the strained juice add sugar to taste — or better yet honey if you have that — and now you have a really fine drink.

I freeze several quarts of unsweetened juice for water drinking. Some people put the unwashed Sumac heads in paper sacks and hang them from the rafters to dry. That's what the Indians did, but I seem to have more freezer space than rafters. I also put aside some Sumac juice to add to the elderberry juice which I also freeze. Elderberries will ripen a few weeks after the Sumac has peaked, and a half-and-half mixture of Sumac juice and elderberry juice makes another fine drink as well as a superlative crimson-colored jelly. Sometimes I think my foraged jellies are prettier than stained glass windows.

Sumac belongs on a coat-of-arms. The raised eyebrows can drop a furrow or two. You can serve rhusads with pride to the finest company that comes to call — from six years old to sixty.



# ONE HUNTER'S SECOND HOBBY



By JANE GRAHAM

**B**ud Webb, a salesman from Pulaski, once thought that duck hunting existed as a sport in Virginia only along the Chesapeake Bay. When he discovered that the New River that flows through Pulaski County was "full of ducks" he began to study the sport — and the art of decoy carving.

Webb began carving in 1968. The self-taught carver worked for five years on his own before finally taking a course in the art at a nearby community college.

This self-taught method, however, was not without its complications. Webb's first decoy was a mallard duck carved out of cedar. This first creation, he discovered, was too heavy to float. He has since learned to make hollow decoys by laminating the wood and to put a keel with weights on the bottom. The head of the decoy is carved separately and is attached to the body of the bird with a steel pin, which doubles as a reinforcement for the neck of the duck.

Webb notes somewhat ironically that few people use these handmade decoys in the field anymore. Before his birds are given as gifts to family members, Webb usually manages to hunt with them on at least one occasion.



Webb's hillside home in Pulaski is littered with his creations. A whippoorwill nestles on his coffee table. Ducks, a woodcock, quail, sandpipers, herons and even a soap stone bear look out at visitors from bookcases, tables and the mantle.



# On The Waterfront

Edited by Jim Kerrick



## USE YOUR OUTBOARD TO FIND FISH \_\_\_\_\_

Most fishermen know that fishing from a boat is more productive, in most cases, than fishing from the shore. But fewer fishermen know that they can be even more successful in their search with a big assist from their outboard motor.

Here are some tips for the most effective use of your outboard when it takes you fishing.

Finding the fish is the key and that's where an outboard can be a real friend. When fishing a lake for the first time do some exploring first. Cruise around and note locations of fish cover, points extending out into deep water, shady spots, deep holes. Get a topographic map of the water, if you can, and check your observations against the water depths and land contours shown on the map.

Unless you've got some pretty sure knowledge of where there are some fish, your next assignment is trolling. When trolling, your lure is in the water constantly and you're covering a lot of territory. Use a deep weedless plug to minimize the danger of getting hung up on underwater obstructions. If this doesn't work, try a shallower diving plug. Vary your trolling speeds from a very slow troll to a faster-than-you'd-think-you-ought-to speed. Make sure, however, that your trolling plug is swimming with the action it is intended to produce. If possible, keep the rod in your hands, not in a rod holder, and set the drag very lightly.

When you find fish, anchor and cast in that area. If you don't pick up any more fish start trolling again.

One of the best techniques for fishing the shoreline with an outboard is to reverse your motor and go backwards. There are several advantages to this. You can go slower and work an area more carefully. Because the steerage is at the point of power, you can maintain your best distance to the shoreline.

Your outboard can come in handy when fishing weed beds or holes in open water. Use your outboard to run upwind of the fishing area, then shut it off and drift. If the wind isn't right, keep your motor idling and use it occasionally in reverse to make course corrections.

In a nutshell, if you have an outboard, use it. Explore. Troll. Work a shoreline. Cast. With an outboard you'll find that your bait will work more effectively for you.



# KNOW the GREAT

# OUTDOORS

by G

Hunting mostly at night, the Raccoon finds crayfish, frogs, bird eggs, berries and fruit. This masked bandit is also guilty of finding corn and chickens on the nearby farms.

Coon hunting has been a favorite sport since Colonial Days. He's quite clever at eluding dogs but if they should corner him rather than tree him, they're in for a real fight. Following him into the water may be even less prudent, this good swimmer may win.

When not pursued, he ambles along like his big cousin the bear. Also like the bear, papa does not help at all with the raising of the family. Home is usually high in a hollow tree.



## Raccoon



Here's a fellow who really tries to be helpful. His habit of wetting food, when possible, leaves beautiful paw prints in mud by streams and lakes from Southern Canada to South America.



### MAKING PLASTER CASTS

Equipment: Plaster of Paris, can, water, and a strip of cardboard about 1 x 18 inches.

At site of track, make a circle of cardboard strip. Mix plaster to the consistency of melted ice cream.

Place circle of cardboard over track, plour plaster into the modl. Gently level the top with a stick.

In about twenty minutes plaster will be hard and may be removed from track and mold. Carefully brush away and soil that may stick to the cast.

You now have a negative cast. That is, where the animal made a depression, your cast is raised. Cover this surface with vaseline to prevent sticking. Mix more plaster and pour it into a new mold. Press the negative cast into the soft plaster. Let this harden, separate and you have a perfect footprint.

